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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,619

04/07/2005

Michael Peszynski

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

NIA, ALIREZA

ART UNIT

PAPER NUMBER

3739

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,619

Applicant(s)

PESZYNSKI, MICHAEL

Examiner

Alireza Nia

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/07/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1 and 14 are objected to because of the following informalities: on line 8 of claim 1 and line 9 of claim 14, the term "first pinion shafts" should be -- first pinion shaft --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over van der Heide 5,388,568.**

4. Van der Heide discloses a control mechanism (col. 2, line 37) for an endoscope (col. 1, line 11) having a flexible shaft 30, comprising a frame 2, first 5b and second 4b movement transmission devices (col. 2, lines 42-47) for causing adjustment of a distal end 31 of the flexible shaft 30, a first control knob 9, a first rotatable pinion shaft 8 rotatably mounted on said frame 2 and fixed to said first control knob 9; said first pinion shaft 8 engaging with said first movement transmission device 5b such that upon rotation of said first control knob 9, said first pinion shaft rotates and said first movement transmission device is actuated (col. 2, lines 50-59), a second control knob 7 rotatable independent of said first control knob 9 (col. 2, line 58), a second rotatable pinion shaft 6 fixed to said second control knob 7 and coaxial with said first pinion shaft 8, said second pinion shaft 6 engaging with said second movement transmission device 4b

such that upon rotation of said second control knob 7, said second pinion shaft 6 rotates and said second movement transmission device 4b is actuated (col. 2, lines 50-59), an intermediate shaft 6a arranged at least partially inside of said second pinion shaft 6 and at least partially around said first pinion shaft 8, said intermediate shaft 6a being arranged to reduce transmission of torque between said first and second pinion shafts such that rotation of one of said first and second shafts does not cause rotation of the other of said first and second pinion shafts (col. 2, lines 56-59, fig. 1).

5. Even though van der Heide does not positively disclose said intermediate shaft 6a to be axially unrestrained such that movement of said intermediate shaft 6a in an axial direction is possible, it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the intermediate shaft 6a adjustable in order to allow unobstructed freedom of movement of the knobs in the axial direction, since it has been held that adjustability, where desirable, is a modification that is within the skill of the art. In re Stevens, 212 F.2d 197, 101 USPQ 284 (CCPA 1954).

6. **Claims 2-8 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Heide 5,388,568 in view of Krauter 5,464,007.**

7. With respect to claim 14, Van der Heide discloses a control mechanism (col. 2, line 37) for an endoscope (col. 1, line 11) having a flexible shaft 30, comprising a frame 2, first 5b and second 4b movement transmission devices (col. 2, lines 42-47) for causing adjustment of a distal end 31 of the flexible shaft 30, a first control knob 9, a first rotatable pinion shaft 8 rotatably mounted on said frame 2 and fixed to said first control knob 9, said first pinion shaft 8 engaging with said first movement transmission device 5b such that upon rotation of said first control knob 9, said first pinion shaft rotates and said first movement transmission device is actuated (col. 2,

lines 50-59), a second control knob 7 rotatable independent of said first control knob 9 (col. 2, line 58), a second rotatable pinion shaft 6 fixed to said second control knob 7 and coaxial with said first pinion shaft 8, said second pinion shaft 6 engaging with said second movement transmission device 4b such that upon rotation of said second control knob 7, said second pinion shaft 6 rotates and said second movement transmission device 4b is actuated (col. 2, lines 50-59), an intermediate shaft 6a arranged at least partially inside of said second pinion shaft 6 and at least partially around said first pinion shaft 8.

8. However, van der Heide does not disclose at least one O-ring arranged in contact with said intermediate shaft and one of said first and second pinion shafts such that torque transmitted by said first or second pinion shaft to said at least one O-ring is applied to said intermediate shaft and transmission of torque between said first and second pinion shafts is reduced, said at least one O-ring being arranged to provide a rotary seal between said intermediate shaft and said one of said first and second pinion shafts.

9. Krauter teaches an analogous control mechanism for an endoscope that includes at least one O-ring 111, 114, 116 arranged in contact with an intermediate shaft and other shafts or surfaces for the purpose of reducing or avoiding the transmission of torque between pinion shafts (col. 7, lines 21-22) as well as to create seals (col. 7, lines 19-20) resulting in an improved braking system used in steering mechanisms of endoscopes.

10. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control mechanism for an endoscope of van der Heide with the at least one O-ring as taught by Krauter in order to provide an improved braking system in the steering mechanism of endoscope and borescopes allowing for efficient control of the distal tip of an endoscope.

11. With respect to claims 2-8, van der Heide discloses the invention as discussed above.

However,

12. With respect to claims 2 and 8, van der Heide does not positively disclose at least one O-ring arranged on said first pinion shaft and in contact with said intermediate shaft such that torque transmitted by said first pinion shaft to said at least one O-ring is applied to said intermediate shaft.

13. With respect to claims 3 and 6, van der Heide does not disclose said first pinion shaft includes at least one circumferential groove for receiving a respective one of said at least one O-ring.

14. With respect to claims 4 and 7, van der Heide does not disclose at least one O-ring to be arranged to provide a rotary seal between said first pinion shaft and said intermediate shaft.

15. With respect to claim 5, van der Heide does not disclose at least one O-ring arranged on said intermediate shaft and in contact with said second pinion shaft such that torque transmitted by said second pinion shaft to said at least one O-ring is applied to said intermediate shaft.

16. Krauter teaches an analogous control mechanism for an endoscope that includes at least one O-ring 111, 114, 116 arranged in contact with an intermediate shaft and other shafts or surfaces for the purpose of reducing or avoiding the transmission of torque between pinion shafts (col. 7, lines 21-22) as well as to create seals (col. 7, lines 19-20) resulting in an improved braking system used in steering mechanisms of endoscopes. Krauter also teaches at least one circumferential groove (figs. 4,5,28) for receiving the taught O-rings 111, 114, 116.

17. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control mechanism for an endoscope of van der Heide with the at least one O-ring and the circumferential grooves receiving the respective O-rings as taught by Krauter in

order to provide an improved braking system in the steering mechanism of endoscopes and borescopes allowing for efficient control of the distal tip of an endoscope.

18. With respect to claims 15-19, van der Heide in view of Krauter disclose the invention as discussed above. However,

19. With respect to claims 15, 17, and 19, van der Heide in view of Krauter do not positively disclose at least one O-ring arranged on said first pinion shaft and in contact with said intermediate shaft such that torque transmitted by said first pinion shaft to said at least one O-ring is applied to said intermediate shaft.

20. With respect to claims 16 and 18, van der Heide in view of Krauter do not disclose said first pinion shaft includes at least one circumferential groove for receiving a respective one of said at least one O-ring.

21. Krauter further teaches an analogous control mechanism for an endoscope that includes at least one circumferential groove (figs. 4,5,28) for receiving the taught O-rings 111, 114, 116 arranged to be in contact with an intermediate shaft and other shafts or surfaces for the purpose of reducing or avoiding the transmission of torque between pinion shafts (col. 7, lines 21-22) as well as to create seals (col. 7, lines 19-20) resulting in an improved braking system used in steering mechanisms of endoscopes.

22. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control mechanism for an endoscope of van der Heide in view of Krauter with the at least one circumferential groove receiving the respective O-rings as taught by Krauter in order to provide an improved braking system in the steering mechanism of endoscopes and borescopes allowing for efficient control of the distal tip of an endoscope.

23. With respect to the recitations in claims 2-8 and 15-19, a recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp & Inter 1987). Moreover, with respect to the arrangement of the O-rings and their respective grooves with respect to the pinion and intermediate shafts, it would have been obvious to one of ordinary skill in the art at the time of the invention to have rearranged the location of the O-rings and the grooves such that the desired outcome would have been achieved, since it has been held that rearranging parts of an invention involves only routine skill in the art, In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (MPEP 2144.04 VI C).

24. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Heide 5,388,568 in view of Hall 3,788,303.

25. With respect to claims 9-11, van der Heide discloses the invention as discussed above. However,

26. With respect to claim 9, van der Heide does not disclose a fixing means for fixing said intermediate shaft against rotation.

27. With respect to claim 10, van der Heide does not disclose the fixing means comprises a pin attached to said frame and extending into a slot formed in said intermediate shaft.

28. With respect to claim 11, van der Heide does not disclose ball bearings arranged between said second pinion shaft and said intermediate shaft for enabling rotation of said second pinion

shaft relative to said intermediate shaft and between said intermediate shaft and said first pinion shaft for enabling rotation of said first pinion shaft relative to said intermediate shaft.

29. Hall, teaches an analogous control device which includes a fixing means 55 for fixing a intermediate shaft against rotation (col. 4, lines 53-61), the fixing means 55 comprising a pin 58 attached to a frame and extending into a slot 59 formed in an intermediate shaft (col. 4, lines 53-61), and ball bearings 63 arranged between two shafts (col. 5, lines 8-10) for use in a flexible endoscope to permit ready deflection of the endoscope in an infinite number of planes by means of a single handle control.

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control mechanism of van der Heide with the fixing means 55, pin 58, slot 59, and ball bearings 63 as taught by Hall in order to provide a control device in an flexible endoscope that is simple and compact, having its parts so constructed and arranged as to permit ready deflection of the endoscope in an infinite number of planes by means of a single handle.

31. With respect to the recitation “arranged between said second pinion shaft and said intermediate shaft for enabling rotation of said second pinion shaft relative to said intermediate shaft and between said intermediate shaft and said first pinion shaft for enabling rotation of said first pinion shaft relative to said intermediate shaft” a recitation with respect to the manner in which an apparatus is intended to be employed does not impose any structural limitation upon the claimed apparatus which differentiates it from a prior art reference disclosing the structural limitations of the claim. In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974); In re Yanush, 477 F.2d 958, 177 USPQ 705 (CCPA 1973); In re Finsterwalder, 436 F.2d 1028, 168 USPQ 530 (CCPA 1971); In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 136 USPQ 458 (CCPA 1963); Ex parte Masham, 2 USPQ2d 1647 (BdPatApp &

Inter 1987). Moreover, with respect to the arrangement of the ball bearings, it would have been obvious to one of ordinary skill in the art at the time of the invention to have rearranged the location of the ball bearings such that the desired outcome would have been achieved, since it has been held that rearranging parts of an invention involves only routine skill in the art, In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (MPEP 2144.04 VI C).

32. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Heide 5,388,568 in view of Opie 4,825,850.

33. With respect to claims 12 and 13, van der Heide discloses the invention as discussed above. However,

34. With respect to claim 12, van der Heide does not disclose a nut fixed to said frame, ball bearings arranged between said second pinion shaft and said frame for mounting said second pinion shaft to said frame and at least one hard spacer arranged between said nut and said ball bearings to allow floating of said intermediate shaft.

35. With respect to claim 13, van der Heide does not disclose a nut fixed to said frame, ball bearings arranged between said second pinion shaft and said frame for mounting said second pinion shaft to said frame and a preload spring arranged between said nut and said ball bearings, said ball bearings being preloaded.

36. Opie teaches an analogous control handle of an endoscope which includes a nut 260 (col. 9, line 12) fixed to a frame, ball bearings 244,246 (col. 8, lines 64-65) arranged between two surfaces, at least one spacer 138 for floating a member (col. 7, lines 60-62), and a preload spring 240,242 arranged between ball bearings 244,246 and nut (fig. 6), said ball bearings being preloaded via 240,242 (col. 8, lines 64-65) resulting in an endoscope having easily removable components.

37. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control mechanism of van der Heide with the nut 260, ball bearings 244,246, the spacer 138, and the preloaded springs 240,242 as taught by Opie in order to provide an endoscope having easily removable control wheels so that the wheels could be either sterilized or discarded after use in order to avoid cross contamination during surgical procedures.

38. With respect to the recitations in claims 12 and 13, it would have been obvious to one of ordinary skill in the art at the time of the invention to have rearranged the location of the nut, ball bearings, spacer, or springs accordingly such that the desired outcome would have been achieved, since it has been held that rearranging parts of an invention involves only routine skill in the art, *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (MPEP 2144.04 VI C).

39. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Heide 5,388,568 in view of Krauter 5,464,007 further in view of Opie 4,825,850.

40. With respect to claims 20 and 21, van der Heide in view of Krauter disclose the invention as discussed above. However,

41. With respect to claim 20, van der Heide in view of Krauter does not disclose a nut fixed to said frame, ball bearings arranged between said second pinion shaft and said frame for mounting said second pinion shaft to said frame and at least one hard spacer arranged between said nut and said ball bearings to allow floating of said intermediate shaft.

42. With respect to claim 21, van der Heide in view of Krauter does not disclose a nut fixed to said frame, ball bearings arranged between said second pinion shaft and said frame for mounting said second pinion shaft to said frame and a preload spring arranged between said nut and said ball bearings, said ball bearings being preloaded.

43. Opie teaches an analogous control handle of an endoscope which includes a nut 260 (col. 9, line 12) fixed to a frame, ball bearings 244,246 (col. 8, lines 64-65) arranged between two surfaces, at least one spacer 138 for floating a member (col. 7, lines 60-62), and a preload spring 240,242 arranged between ball bearings 244,246 and nut (fig. 6), said ball bearings being preloaded via 240,242 (col. 8, lines 64-65) resulting in an endoscope having easily removable components.

44. It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the control and sealing mechanism of van der Heide in view of Krauter with the nut 260, ball bearings 244,246, the spacer 138, and the preloaded springs 240,242 as taught by Opie in order to provide an endoscope having easily removable control wheels so that the wheels could be either sterilized or discarded after use in order to avoid cross contamination during surgical procedures.

45. With respect to the recitations in claims 20 and 21, it would have been obvious to one of ordinary skill in the art at the time of the invention to have rearranged the location of the nut, ball bearings, spacer, or springs accordingly such that the desired outcome would have been achieved, since it has been held that rearranging parts of an invention involves only routine skill in the art, *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (MPEP 2144.04 VI C).

Conclusion

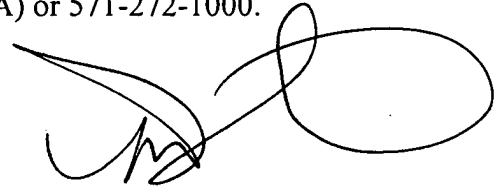
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alireza Nia whose telephone number is 571-270-3076. The examiner can normally be reached on Mo.-Fri.-7:30 AM-5:00 PM EST-Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alireza Nia
December 18th, 2007



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SUPERVISOR, PATENT EXAMINER
3739